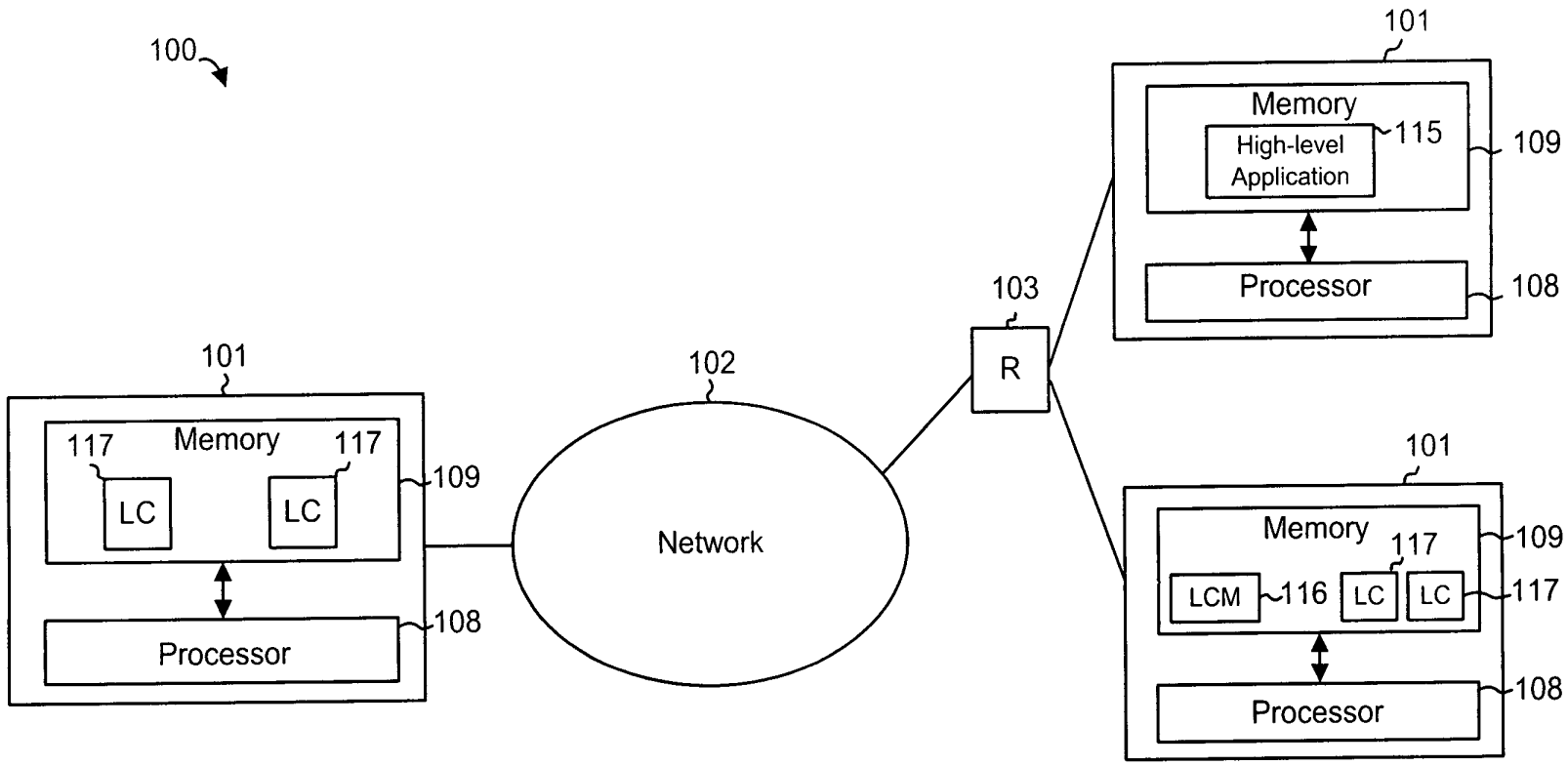
100
101
Memory
High-level Application
115
109
Processor
108
103
R
102
Network
101
117
Memory
117
LC
LC
109
Processor
108
101
Memory
117
LCM
116
LC
LC
109
117
Processor
108

Fig. 1

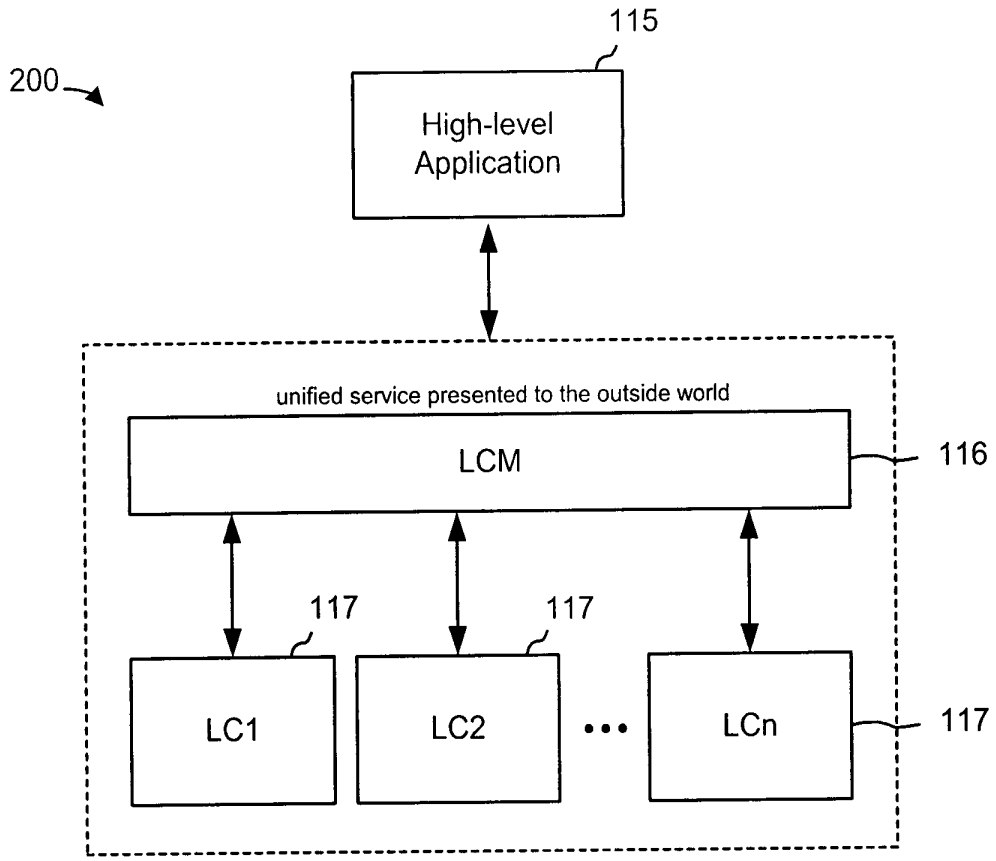
200
115
High-level Application
unified service presented to the outside world
LCM
116
117
117
LC1
LC2
LCn
117

Fig. 2

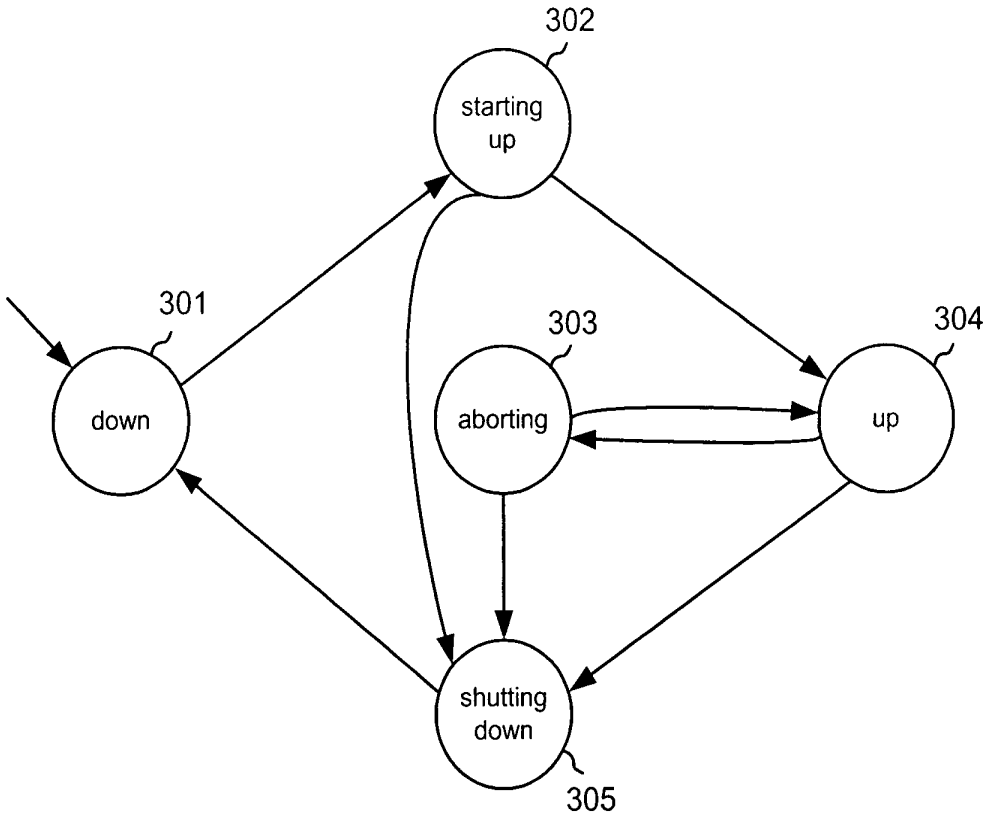
302
starting up
301
303
304
down
aborting
up
shutting down
305

Fig. 3

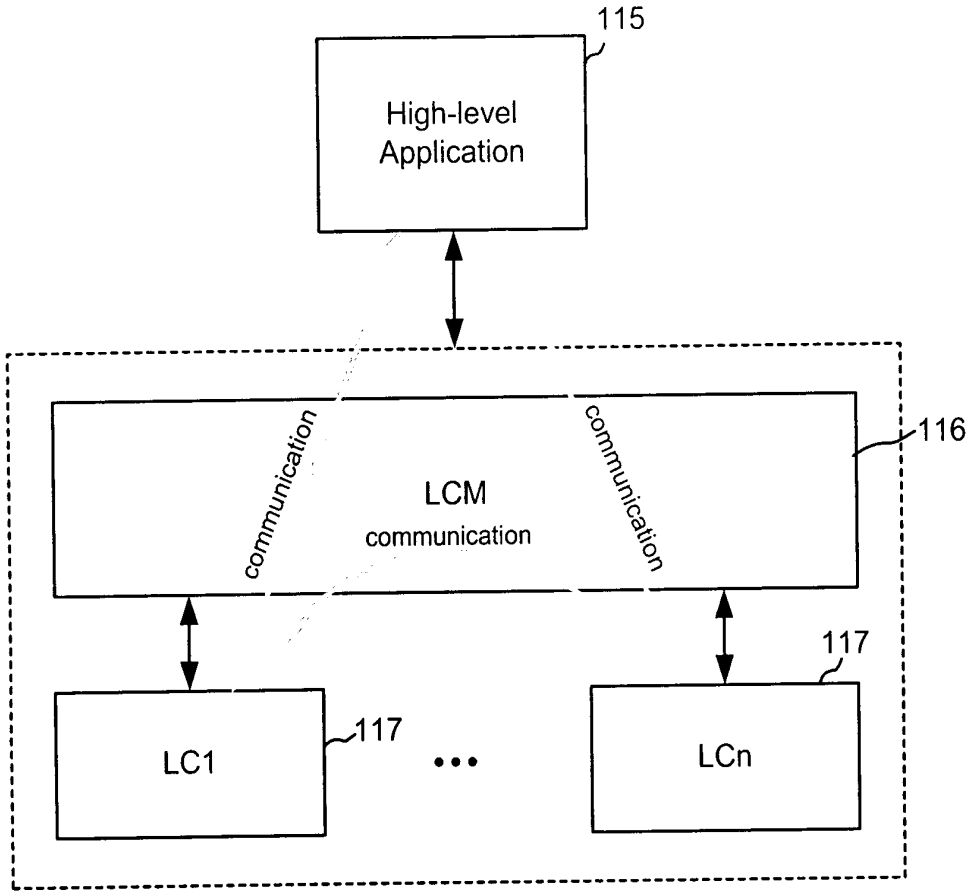
115
High-level Application
communication
LCM
communication
communication
116
117
LC1
117
LCn

Fig. 4

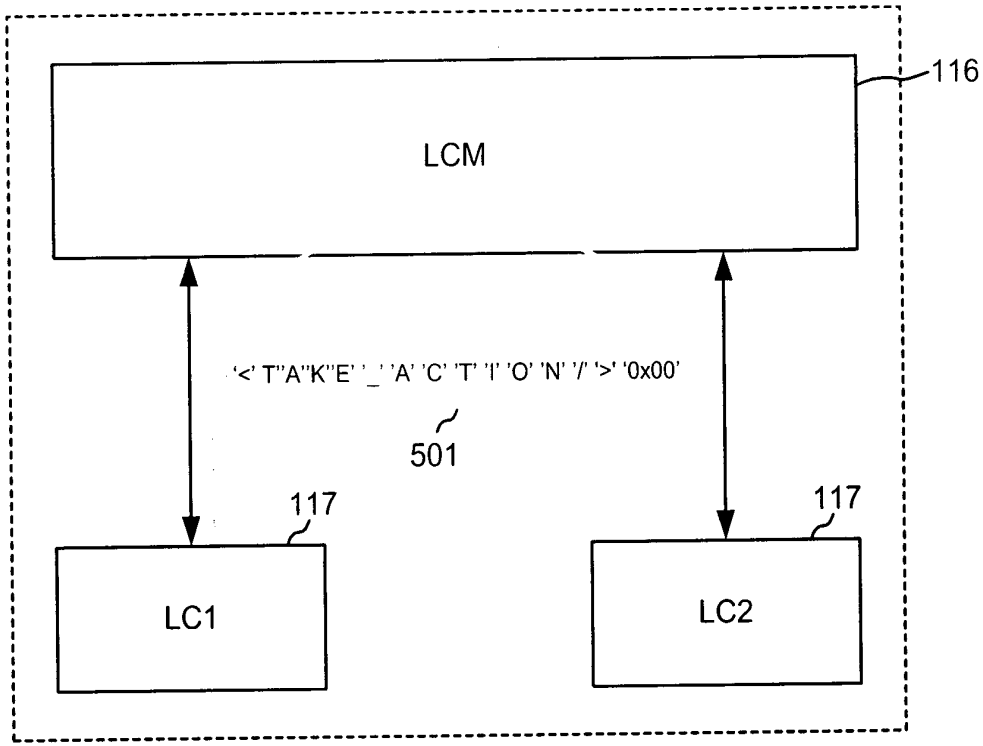

Fig. 5

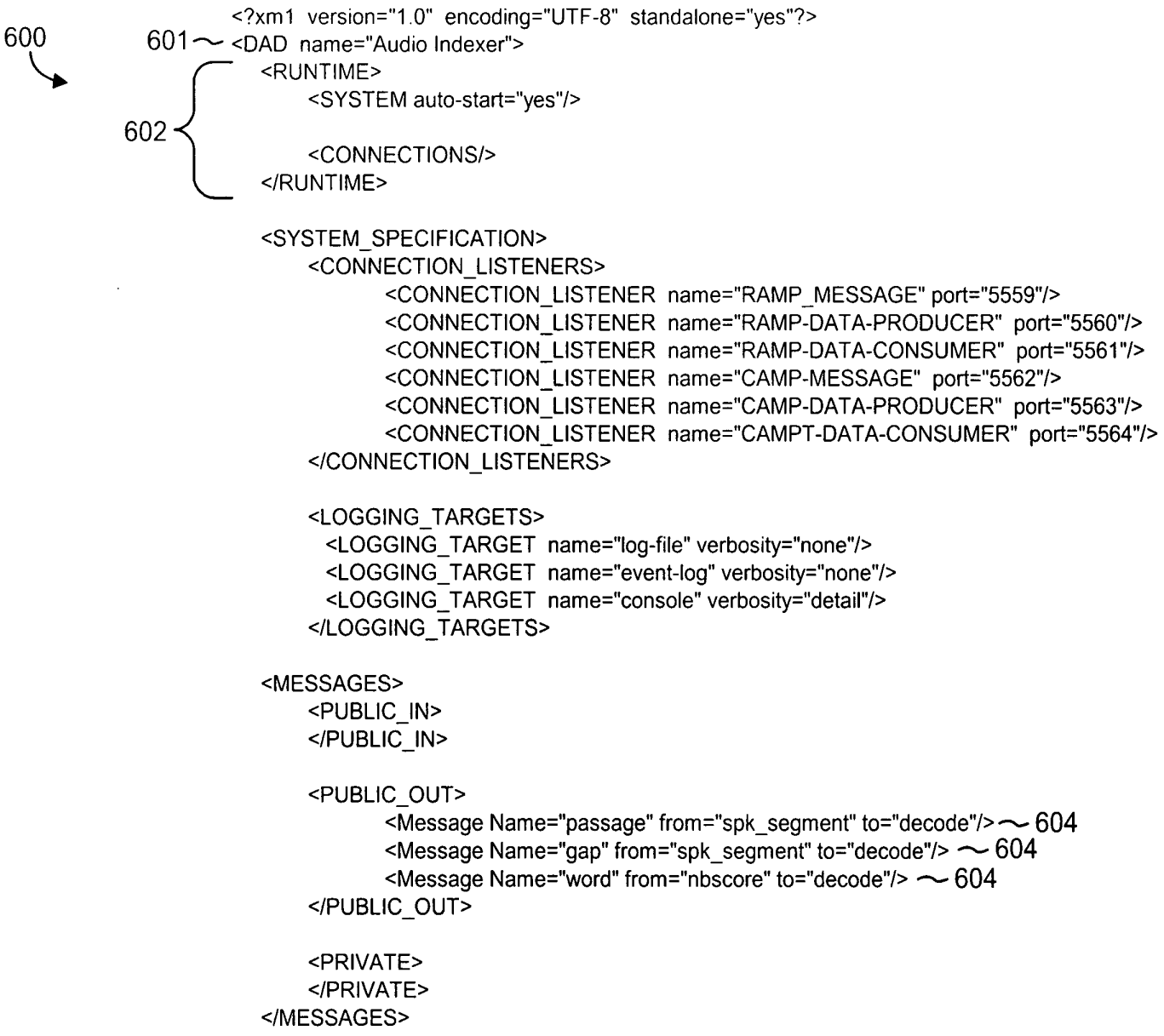
600
601
602
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<DAD name="Audio Indexer">
<RUNTIME>
<SYSTEM auto-start="yes"/>
<CONNECTIONS/>
</RUNTIME>
<SYSTEM_SPECIFICATION>
<CONNECTION_LISTENERS>
<CONNECTION_LISTENER name="RAMP_MESSAGE" port="5559"/>
<CONNECTION_LISTENER name="RAMP-DATA-PRODUCER" port="5560"/>
<CONNECTION_LISTENER name="RAMP-DATA-CONSUMER" port="5561"/>
<CONNECTION_LISTENER name="CAMP-MESSAGE" port="5562"/>
<CONNECTION_LISTENER name="CAMP-DATA-PRODUCER" port="5563"/>
<CONNECTION_LISTENER name="CAMPT-DATA-CONSUMER" port="5564"/>
</CONNECTION_LISTENERS>
<LOGGING_TARGETS>
<LOGGING_TARGET name="log-file" verbosity="none"/>
<LOGGING_TARGET name="event-log" verbosity="none"/>
<LOGGING_TARGET name="console" verbosity="detail"/>
</LOGGING_TARGETS>
<MESSAGES>
<PUBLIC_IN>
</PUBLIC_IN>
<PUBLIC_OUT>
<Message Name="passage" from="spk_segment" to="decode"/>
<Message Name="gap" from="spk_segment" to="decode"/>
<Message Name="word" from="nbscore" to="decode"/>
604
604
604
</PUBLIC_OUT>
<PRIVATE>
</PRIVATE>
</MESSAGES>

Fig. 6A

600

```
<DATA_PIPES>
    <PUBLIC_IN>
    </PUBLIC_IN>

    <PUBLIC_OUT>
    </PUBLIC_OUT>

    <PRIVATE>
        <Data_Pipe_Name="phn2seq" from="filter_component" to="speaker_seg"/>
        <Data_Pipe_Name="seg2fw" from="speaker_seg" to="decoder_fw"/>
    </PRIVATE>
</DATA_PIPES>

<REMOTE_APPLICATIONS>
    <REMOTE_APPLICATION name="feed_audio"/>
</REMOTE_APPLICATIONS>

<LANGUAGE_COMPONENTS>
    <LANGUAGE_COMPONENT    name="decoder_phn" visible="yes"
                                log-verbosity="detail" debug="no"
                                command-line="./decoder.exe . . \config\
                               decoder-phn.cfg"
                           console-output-log-file="decoder-phn.log"/>
    <LANGUAGE_COMPONENTS>
</SYSTEM_SPECIFICATION>
</DAD>
```

Fig. 6B

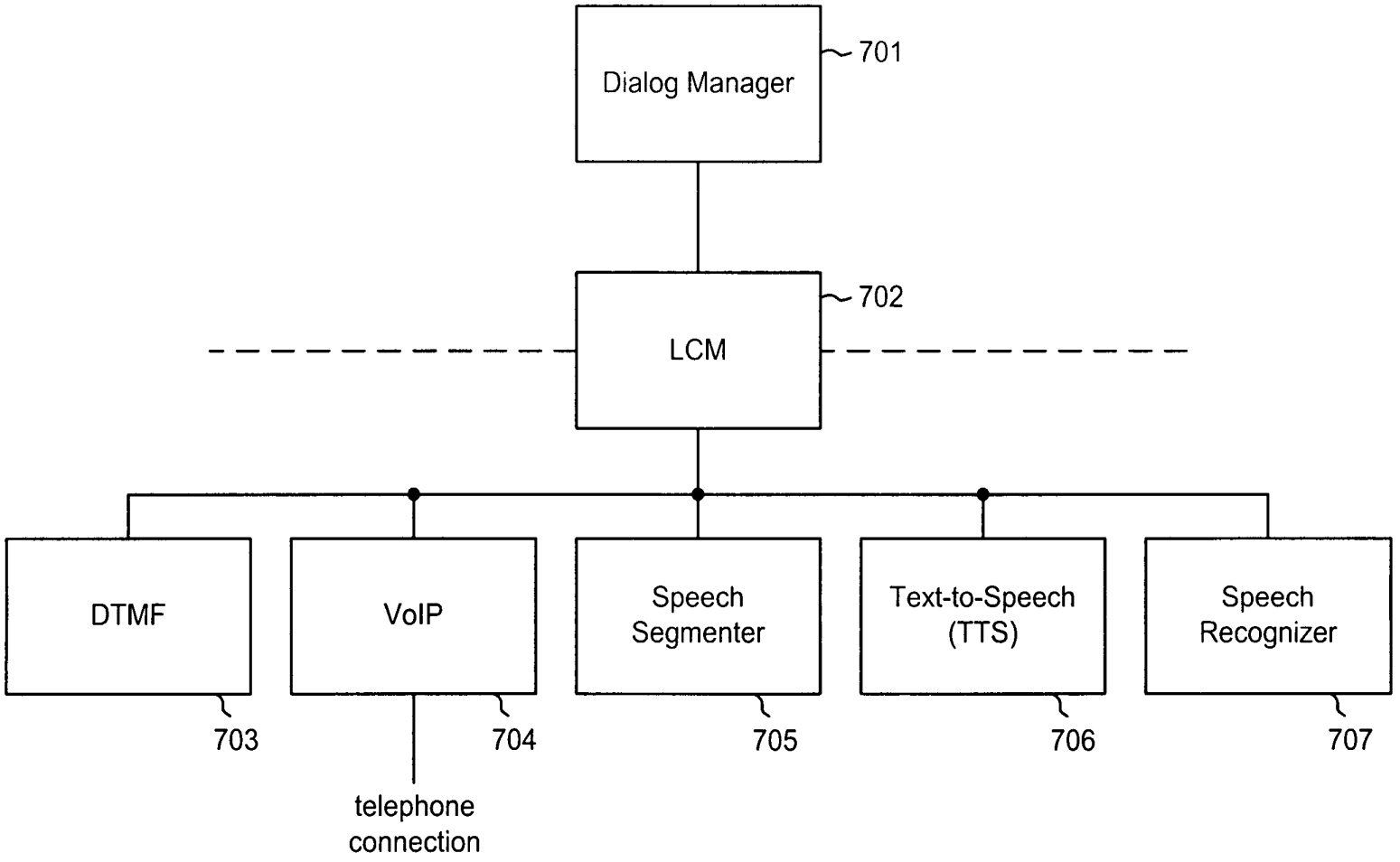
Dialog Manager
701
LCM
702
DTMF
VoIP
Speech Segmenter
Text-to-Speech (TTS)
Speech Recognizer
703
704
705
706
707
telephone connection

Fig. 7